

AD-A158 145

NAVY FAMILY SEPARATION AND PHYSICIAN UTILIZATION(U)
NAVAL HEALTH RESEARCH CENTER SAN DIEGO CA D S NICE
19 DEC 80 NAVHLTHRSCHC-80-34

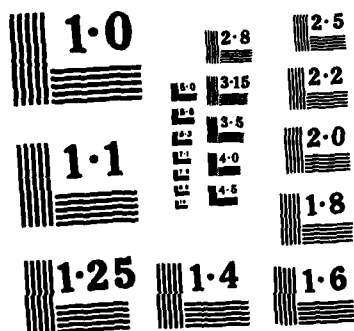
1/1

UNCLASSIFIED

F/G 5/10

NL

											END			
											FILED			
											DFIC			



NATIONAL BUREAU OF STANDARDS
MICROCOPY RESOLUTION TEST CHART

NAVY FAMILY SEPARATION AND PHYSICIAN UTILIZATION

D. S. NICE

REPORT NO. 80-34

AD-A158 145

DTIC FILE COPY



DTIC
ELECTE
S **D**
JUL 29 1985
G

NAVAL HEALTH RESEARCH CENTER

P. O. BOX 85122
SAN DIEGO, CALIFORNIA 92138

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND
BETHESDA, MARYLAND

DISTRIBUTION STATEMENT A

Approved for public release
Distribution Unlimited

308

Navy Family Separation and Physician Utilization*

D. Stephen Nice, Ph.D.**

Naval Health Research Center

San Deigo, California 92138

*This paper was presented at the Annual Meeting of the National Council on Family Relations, Portland, Oregon, October, 1980. This research was supported by Naval Medical Research and Development Command, Department of the Navy under Work Unit ZF51.524.022-0006. Opinions expressed in this paper are those of the author and are not to be construed as necessarily reflecting the official view or endorsement of the Department of the Navy.

**Reprint requests should be directed to Dr. Nice at the Naval Health Research Center, P.O. Box 85122, San Diego, Ca., 912138. The author gratefully acknowledges the assistance of Mrs. Dorothy Benson, Mr. James Phelan, Mr. Arne Beck, and Dr. Allan Jones.

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special



Navy Family Separation and Physician Utilization

In the Navy community, family life is often interrupted as the husbands deploy for sea duty. The majority of these separations require substantial family adjustments as the wife assimilates new roles, adapts to single parenting, and adjusts to increased strains associated with the separation. Adjustment difficulties are often exacerbated by the concurrent reduction in social support from the absent husband and may become manifest in increased physical symptoms and physician utilization (Meyers, et al., 1975; Snyder, 1978).

A sizable body of literature links stressful life events to both physical and psychiatric illness (Dean & Lin, 1979; Dohrenwend & Dohrenwend, 1974; Gunderson & Rahe, 1974; Hong, et al., 1979; Lin, et al., 1979; Rabkin & Struening, 1976). Separation from spouse due to work is considered a major life event (Holmes & Rahe, 1967; Snyder, 1978) and may therefore increase the probability of illness. Hinkle (1974) reports that changes in significant social or interpersonal relationships are often accompanied by changes in habits, patterns of activities, intake of food and medication, and exposure to potential sources of infection or trauma. They are also frequently associated with changes in mood and with physiological changes directly mediated by the central nervous system. Any of all of these changes might affect the frequency or severity of illness. Because separation from spouse has been identified as both a major life event and as

a significant source of stress among military wives (Beckman, et al., 1979; Dickerson & Arthur, 1965; Isay, 1968; MacIntosh, 1968; Pearlman, 1970), Navy wives may represent a special risk group during periods of family separation.

In a retrospective study of the wives of Fleet Ballistic Submarine personnel, Snyder (1978) reported that wives recalled being far more ill and seeking more medical attention when their husbands were at sea than when their husbands were at home. It must be pointed out, however, that the accuracy of retrospective data in health related studies has been seriously challenged in the literature (Cartwright, 1963; Cornfield & Haenszel, 1960; McKinley, 1972). Snyder acknowledged this point and suggested the incorporation of a control group and the collection of concurrent data to validate her findings.

The impact of family separation may affect physician utilization either directly through increased illness and physical symptoms or indirectly through altered utilization motives and expectations. It is estimated that 50% of all people entering the Navy health care delivery system present problems which are caused or aggravated by social or emotional needs (Sears, 1977). There presently exists a considerable body of literature which indicates that psychologically distressed persons disproportionately use medical services (Cooper, 1964; Cummings & Follette, 1968; Roughmann & Haggerty, 1975; Tessler, et al., 1976). Because the separation experience is extremely difficult for many wives, the probability of psychological

distress and associated physician utilization may be increased significantly (Henderson, 1977).

Of course all wives are not equally likely to demonstrate an increase in illness or physician utilization as a function of family separation. Individual difference factors such as demographic characteristics, socioeconomic status, social supports, level of experience, situational factors, and expectancy orientation have demonstrated important relationships with health and health seeking behaviors.

Among Navy populations, men who are black, young, and low in rank experience a higher incidence of illness and sick call visits than those who are non-black, older, or higher in rank (Pugh, et al., 1972; Rahe, et al., 1972). Similarly, Tessler, et al., (1976) found illness and utilization rates in a prepaid medical plan were affected by age, race, and income variables. Social supports have been found to be of crucial importance in field studies of the epidemiology of illness (Cassel, 1974; Cobb, 1976; Dean & Lin, 1977; Dohrenwend & Dohrenwend, 1974). Individuals with adequate social supports typically experience fewer and less severe illnesses. The impact of a stressful life event on illness is believed to be heightened in those cases in which an individual has had little or no prior experience with similar stressful events (Cassel, 1976; Rabkin & Struening, 1976). Situational factors are also believed to influence an individual's ability to "contain" symptoms. In situations where commitment and involvement are greater, individuals may be less

inclined to assume the sick role (Alonzo, 1979). Therefore, wives who have children or who are working may experience fewer illnesses. In a review of the literature, Wallston and Wallston (1978) cite evidence that the locus of control construct is relevant to the prediction of health behaviors and sick-role behaviors. Individuals who are internals (i.e., those who believe that reinforcement is contingent upon the individual's behavior) are more likely to engage in behaviors that facilitate physical well being. Similarly, Tessler, et al., (1976) found that people who had perceived control over illness exhibited fewer symptom-initiated physician visits. Therefore it is expected that variables such as age, race, income, social supports, prior separation experience, number of children, employment status, psychological distress, and external locus of control are predictors of illness and physician utilization among separated wives.

Method

Subjects

The sample consisted of wives of enlisted men aboard three similar amphibious assault ships. A separation group included 59 wives of personnel aboard two ships that were preparing to deploy for a seven-month period. A control group consisted of 29 wives of personnel aboard a ship scheduled to remain in port.¹ As the study progressed over the seven-month data collection period, 28 wives in the separation group and 9 wives in the control group were lost from the sample due to their husbands' transfers or

departures from the Navy. The final sample consisted of 31 wives in the separation group and 20 wives in the control group. The wives averaged 31 years of age, had been married for an average of 7 years, had an average of 2 children,, and had completed approximately 12 years of education. Differences between the separation and control groups on each of the demographic variables were negligible.

Measures

Psychological distress. A battery of instruments including the Health Opinion Survey (Macmillian, 1957), Stress Scales (Pearlin & Schooler, 1978), Depressive Affect (Ryaman, et al., 19744), Self Esteem (Rosenberg, 1966) and Loneliness (Rubenstein, et al., 1979) were administered to assess psychological distress. The average intercorrelation of these measures was .50. Because of the significant intercorrelation among the measures, the Depressive Affect scale was selected as a representative measure of psychological distress. In the present sample this scale had an internal reliability (coefficient alpha) of .91.

Social Support. A seven-item social support scale was constructed to assess the proximity, accessibility, and strength of friendship networks. Each item was rated on a three-point Likert scale. The scale focused on non-kin relationships because recent literature indicated that weak ties serve useful support functions (Granovetter, 1973; Lin, et al., 1979), and non-kin interactions are important in health-related behavior (Langlie, 1977). The internal consistency (coefficient alpha) of the scale

was .74. A separate item was included to assess the proximity and perceived helpfulness of kinship support.

Health Locus of Control. The multidimensional health locus of control scale (MHLC) is an expectancy measure specific to the area of health. It was developed to explain variance in health behaviors and, to some extent, health status. The MHLC was used to assess locus of control orientation on the dimensions of internal, chance, and powerful others. Both the chance and powerful others dimensions are considered external orientations. The internal consistencies (coefficient alpha) of the internal, chance, and powerful others scales were .74, .53, and .75 respectively. Further information regarding the development and psychometric properties of this scale is presented elsewhere (Wallston, et al., 1978).

Illness. The measure of illness was composed of a checklist of 35 common physical symptoms compiled by the Stress Factors Department of the Naval Health Research Center (Ward, et al., 1979).

Procedure

Approximately six weeks prior to the departure of the separation group ships, all married men were contacted by mail and introduced to the research project. In subsequent telephone follow-ups, 80% of the wives of those men who could be located agreed to participate in the study.² The refusal rates did not differ substantitally between ships. Informed consent was

was therefore transformed by dividing individuals into three utilization categories. The bottom third of the sample did not visit a doctor during any reporting period and received a score of zero. The middle third of the sample visited a doctor between 6 and 17% of the time periods sampled and received a score of one. The remaining third of the sample visited a doctor between 20 and 100% of the time periods sampled and received a score of two. This transformation eliminated the skew from the utilization data and thus permitted further statistical analyses. An examination of the differences between the separated and control wives went to the doctor significantly more often than the control wives ($t(49) = 2.67, p < .05$).

In order to derive a composite of variables to identify those separated wives who have a higher probability of illness or physician utilization, those variables conceptually related to symptoms and physician utilization were entered into a Pearson product-moment correlation matrix with the criterion measures of symptoms and utilization (Table 1).

Insert Table 1 about here

This procedure permitted the elimination of those variables which did not obtain a statistically significant relationship with the criterion. The chance subscale of the MHLC, age (younger vs. older), race (white vs. non-white), and

obtained after procedures had been fully explained to the subjects. Wives were divided equally among four trained interviewers who collected demographic data and administered the research protocol during a home interview four months after the departure of the husbands in the separation group. The depressive affect scale, the number of symptoms and physician visits were collected on a biweekly basis and mailed to the experimenter during the course of the seven-month separation. Those wives who completed 10 or more of the biweekly reports were included in the analysis (N = 51).

Results

An analysis of the effects of family separation on the physical symptoms of wives was computed using a t test for independent samples. The difference in the average number of physical symptoms between the separated and control wives was not significant [$t(49) = .25$, $p < .05$]. In both groups those symptoms reported most frequently (i.e., an average of two or more times per wife over the 16 biweekly phases) were a) head colds; b) sinus problems; c) sore throat; d) back problems; e) headaches; f) stomach-intestinal upset; g) muscle aches or cramps; h) sleep difficulties; and i) weight loss or gain.

In order to examine the effects of family separation on physician utilization, the degree of utilization of each subject was prorated by dividing the total number of doctor visits by the number of reporting phases completed. The distribution obtained by this procedure was highly skewed in the positive direction and

psychological distress were all positively related to the criterion of symptoms and were entered into a stepwise multiple regression analysis. Those variables which made a significant contribution to the equation were retained. The final regression equation included all four predictor variables and yielded a multiple R^2 was .58.

The variables which were significantly related to the criterion of physician visits included physical symptoms, race and work status. Those wives who had more symptoms, were white and were working tended to have more doctor visits. The number of symptoms and work status contributed significantly to the equation and yielded a multiple R^2 of .25. The adjusted R^2 was .19.

Discussion

The results of this investigation supported the hypothesis that wives of Navy personnel who are at sea for prolonged periods of time seek medical care more frequently than wives of Navy personnel who are at home. The lack of support for the hypothesis that separated wives have more illnesses or physical symptoms than nonseparated wives argues against a strictly medical interpretation of the differential utilization rates. An alternative explanation could be that the psychological distress associated with the separation experience promotes an increase in physician utilization for non-medical problems. While the direction of the relationship between psychological distress and utilization among the separated wives is positive ($r = .26$), the

correlation between these variables is not significant and therefore does not lend strong support to the distress hypothesis.

A second explanation for the increase in utilization among separated wives is that they become more oriented toward preventive medicine and visit the doctor for symptoms they might otherwise treat at home. Based on interviews with wives of submarine personnel, Snyder (1978) deduced that there is a great concern over one's health when the husband is at sea. Many women offered the comment that they could not afford to be sick when their husbands were gone because there were too many responsibilities to be faced and no one to help. This prevention hypothesis is supported in the present study by the significant positive relationship between work status and doctor visits. Those wives who were working could least afford to assume the sick role and despite obvious logistical difficulties found time to visit the doctor more frequently than those wives who were not working.

The best predictors of physical symptoms among the separated wives were age, psychological distress, external health locus of control and race. The higher level of symptoms among younger wives is consistent with previous literature (Tessler, et al., 1976). Similarly, the relationship between psychological distress and physical symptomatology is supported in other work (Cassel, 1976; Moss, 1973). The influence of external health locus of control on physical symptoms might be accounted for by the fact that externals are less likely to engage in behaviors

that facilitate physical well being (Wallston & Wallston, 1978). Race was one of the more interesting predictors of physical symptoms in this study. Contrary to other literature (Tessler, et al., 1976), the white wives had more symptoms than the non-white wives. A closer examination of the non-white sample, however, revealed that blacks, the predominant non-white constituent in other studies, accounted for only 13% of the non-white sample in the present study. The majority of the non-white wives were Pacific Islanders. Previous epidemiological research among Navy enlisted personnel revealed that blacks had a higher illness incidence than whites, while Filipino subjects had a far lower incidence (Gunderson, et al., 1970). Thus, race appears to be an important variable to consider in studies of illness and symptomatology among Navy wives.

In conclusion the results of this study demonstrate that during periods of family separation Navy wives tend to visit their physician more frequently than when their husbands are at home. The most convincing explanation for this result is that separated wives adopt a more prevention oriented approach to illness and seek treatment for less severe symptoms. The relatively small sample size, however, precluded the cross-validation of these results. Although the sample was small, these results are important as they represent the only controlled investigation of health and health care utilization among Navy wives. The validity of the findings is further strengthened by the use of concurrent data on both symptoms and utilization collected over a seven-month period. Further research appears

necessary to investigate the causes of separation-related physician utilization among Navy wives and to assess the appropriateness of this utilization.

REFERENCES

Alonzo, A.A.

- 1979 "Everyday illness behavior: a situational approach to health status deviations." *Social Science and Medicine* 13A:397-404.

Beckman, D., A.J. Marsella, and R. Finney

- 1979 "Depression in the wives of nuclear submarine personnel." *American Journal of Psychiatry* 136:524-526.

Cartwright, A.

- 1963 "Memory errors in a morbidity survey." *Millbank Memorial Fund Quarterly* 41:5-24.

Cassel, J.

- 1976 "The contribution of social environment to host resistance." *American Journal of Epidemiology* 104:107-123.

Cobb, S.

- 1976 "Social support as a moderator of life stress." *Psychosomatic Medicine* 38:300-314.

Cooper, G.

- 1964 "The epidemiological approach to psychosomatic medicine." *Journal of Psychosomatic Research* 8:9-15.

Cornfield, J. and W. Haenszel

- 1960 "Some aspects of retrospective studies." *Journal of*

Chronic Disease 11:523-534.

Cummings, N.A. and W.T. Follette

1968 "Psychiatric services and medical care utilization in prepaid health plan setting: part II." Medical Care 6:31-41.

Dean, A., and N. Lin

1977 "The stress-buffering role of social support, problems and prospects for systematic investigation." The Journal of Nervous and Mental Disease 165:403-417.

Dickerson, W.J. and R.J. Arthur

1965 "Navy families in distress." Military Medicine 130:894-898.

Dohrenwend, B.S., and B.P. Dohrenwend (ed.)

**1974 Stressful Life Events, Their Nature and Effects.
New York: John Wiley and Sons.**

Granovetter, M.S.

1973 "The strength of weak ties." American Journal of Sociology 78:1360.

Gunderson, E.K.E., and R.H. Rahe (eds.)

1974 Life Stress and Illness. Springfield, IL: Charles C. Thomas.

Gunderson, E.K.E., R.H. Rahe, and K.R.J. Arthur

- 1970 "The epidemiology of illness in Naval environments.
II. Demographic, social background, and occupational
factors." *Military Medicine* 135:453-458.

Henderson, S.

- 1977 "The social network, support and neurosis, the function
of attachment in adult life." *American Journal of
Psychiatry* 131:185-191.

Hinkle, L.E.

- 1974 "The effect of exposure to culture change, social change,
and changes in interpersonal relationships on health."
In Dohrenwend and Dohrenwend (eds.), *Stressful Life
Events: Their Nature and Effects*. New York: Wiley.

Holmes, T. and R. Rahe

- 1967 "The social readjustment rating scale." *Journal of
Psychosomatic Research* 11:213.

Hong, R.M., R.D. Wert, A.M. Yellin and J. Hopwood

- 1979 "Psychological attributes, patterns of life change and
illness susceptibility." *The Journal of Nervous and
Mental Disease* 167(5):275-281.

Isay, R.A.

- 1968 "The submariners' wives syndrome." *Psychiatric Quarterly*
42:647-652

Kerlinger, F.N. and E.J. Pedhazur

1973 "Multiple regression in behavioral research." New York:
Holt, Rinehart and Winston, Inc., 283.

Langlie, J.K.

1977 "Social networks, health beliefs, and preventive health
behavior." Journal of Health and Social Behavior 18:244
-260.

Lin, N., R.S. Simeone, W.M. Ensel, and W. Kuo

1979 "Social support, stressful life events, and illness:
A model and an empirical test. Journal of Health and
Social Behavior 20:108-119.

MacIntosh, H.

1968 "Separation problems in military wives." American
Journal of Psychiatry 125:260-265.

MacMillian, A.M.

1957 "The health opinion survey: Technique for estimating
prevalence of psychoneurotic and related types of
disorder in communities." Psychological Reports 2:135.

McKinley, J.B.

1972 "Some approaches and problems in the study of the use of
services - an overview." Journal of Health and Social
Behavior 13:115-152.

Meyers, J.K., J.J. Lindenthal, and M.P. Pepper

1971 "Life events and psychiatric impairment." *Journal of Nervous and Mental Disease* 152:149-157.

Moss, G.E.

1973 *Illness, Immunity, and Social Interaction*. New York: John Wiley and Sons.

Pearlin, L.I., and KC. Schooler

1978 "The structure of coping." *Journal of Health and Social Behavior* 19:2-21.

Pearlman, C.A.

1970 "Separation reactions of married women." *American Journal of Psychiatry* 126(7):70-74.

Pugh, W.M., E.K.E. Gunderson, R.H. KRahe, and R.T. Rubin

1972 "Variations of illness incidence in the Navy population." *Military Medicine* 137(6):224-227.

Rabkin, J.G., and E.L. Struening

1976 "Life events, stress, and illness." *Science* 194:1013-1020.

Rahe, R.H., E.K.E. Gunderson, W.M. Pugh, R.T. Rubin, and R.J. Arthur

1972 "Illness prediction studies: Use of psychological and occupational characteristics as predictors." *Archives of Environmental Health* 25:192-197.

Rosenberg, M.

1965 **Society and the Adolescent Self-Image.** Princeton,
New Jersey: Princeton University Press.

Roughman, K.J., and R.J. Haggerty

1975 "The stress and illness of behavior." Pp. 142-156 in
R. J. Haggerty, K.J. Roughman, and I.B. Pless (eds.),
Child Health and Community. New York: Wiley-
Interscience.

Rubenstein, C., P. Shaver, and L.A. Peplan

1979 "Loneliness." Human Nature 58-65.

Ryman, D.H., R.J. Biersner, and J.M. LaRocco

1974 "Reliabilities and validities of the Mood Questionnaire."
Psychological Reports 35:479-484.

Sears, H.J.

1977 "Radical approach to health care delivery." U.S. Navy
Medicine 68:15-16.

Snyder, A.I.

1978 "Periodic marital separation and physical illness."
American Journal of Orthopsychiatry 48(4):637-643.

Tessler, R.D. Mechanic, and M. Dimond

1976 "The effect o psychological distress on physician utili-
zation: a prospective study." Journal of Health and
Social Behavior 17:353-364.

Wallston, B.S., and K.A. Wallston

1978 "Development of the multidimensional health locus of control(MHLC) scales." Health Education Monographs 6: 160-170.

Ward, H.W., R.H. Rahe, T.L. Conway, L.K. Hervig, D.H. Ryman,
and R. R. Vickers, Jr.

1979 "Navy company commanders: Introduction to a psychological study of stress and adaptation." (Technical Report No. 79-25). San Diego, California: Naval Health Research Center.

FOOTNOTES

¹Although the control ship was scheduled to remain in port, routine periods of operation at sea occurred throughout the seven-month period. These periods ranged from one or two days to one or two weeks.

²Approximately 50% of the married population was not eligible to participate in the study because a) the wife did not reside in the area, b) the wife had left the area for the deployment, or c) the servicemember could not be located by mail.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER 80-34	2. GOVT ACCESSION NO. A158443	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Navy Family Separation and Physician Utilization		5. TYPE OF REPORT & PERIOD COVERED final
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) D. Stephen Nice, Ph.D.		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Health Research Center P.O. Box 85122 San Diego, CA 92138		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS ZF51.524.022-0006
11. CONTROLLING OFFICE NAME AND ADDRESS Naval Medical Research & Development Command Bethesda, MD 20014		12. REPORT DATE 19 December 1980
		13. NUMBER OF PAGES 20
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Commander, Naval Medical Command Department of the Navy Washington, DC 20372		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES Presentation given at National Council on Family Relations, Oct. 20-25, 1980, Portland, Oregon. To be published in <u>Military Medicine</u>		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Family Separation Locus of Control Health Physician Utilization		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) During a seven-month investigation of family separation, the wives of Naval personnel aboard ships which were deployed visited the doctor significantly more often than wives of personnel who were at home. During family separation, wives who were younger, caucasian, had higher levels of psychological distress, and had a chance locus of control orientation were more likely to exhibit more physical symptoms. The best predictors of physician utilization were number of symptoms and working outside the home. Results are discussed in terms of a preventive medicine hypothesis.		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102-LF 014-6601

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

END

FILMED

9-85

DTIC